



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,285	11/25/2003	Helmut Mueller	11884/407801	4762

23838 7590 07/27/2007
KENYON & KENYON LLP
1500 K STREET N.W.
SUITE 700
WASHINGTON, DC 20005

EXAMINER

TRUONG, LECHI

ART UNIT	PAPER NUMBER
----------	--------------

2194

MAIL DATE	DELIVERY MODE
-----------	---------------

07/27/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/720,285

Applicant(s)

MUELLER ET AL.

Examiner

LeChi Truong

Art Unit

2194

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,6,11,16 and 17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-2,6, 11, 16, 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

WILLIAM THOMPSON
SUPERVISOR
TECHNICAL CENTER

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-2, 6, 11, and 16-17 are presented for the examination.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims **1, 2, 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Bramnick et al (US. Patent 5,903753) in view of Bhat (US 2003/0055809 A1) and further in view of Traversat et al (US 6,854115 B1).

As to claim 1, Bramnick teaches the invention substantially as claimed including: an interface (a name space registry, col 3, ln 49-52/ registry API, col 3, ln 15-20), data independent (each piece of data has a name and a class and optionally have one of more values associated with it, col 3, ln 9-13), data storage mechanisms (the various repositories, col 3, ln 15-17/ files, col 3, ln 50-55/ ln 60-62), providing an interface to store data independent of data storage mechanisms (col 3, ln 51-54/ ln 60-65), a plurality of generic routines(set of functions or function calls, col 3, ln 15-21/ the API functions , col 6, ln 25-27), he interface having a plurality of generic routines commonly shared by the data storage mechanisms(col 6, ln 25-30)

Art Unit: 2194

upon receipt of a request, calling the generic routines as a function of one of the data storage mechanisms (col 3, ln 15-20); and executing the called routines to store the data according to the one of the data storage mechanisms (col 5, ln 39-39-45/ col 6, ln 25-35).

Bramnick does not teach a unique identifier associated with the data to store with the data in persistent storage, indexing the stored state data with the unique identifier, recovering the stored data based on the unique identifier. However, Bhat teaches interface provides a unique identifier associated with the data to store with the data in persistent storage (Logging service 11 may also create a unique log record identifier and place it in log record ID field 418. Log record ID 418 may be created using file pointers associated with log file 145, para [0079], ln 1-6/ Logging service 141 may sort the log records chronologically, reverse-chronologically (both based on timestamp information) by record ID, para [0090], ln 14-17/ logging records identified by their log record ID fields 418. Logging service 141 obtains the range of log request IDs from the request, para [0096], ln 7-14/ client may require access to data stored at the server, para [0005], ln 2-6/ accessing the first record indicated in the requested range of log records using its record ID, para [0102], ln 7-8/. The log file may be used by the computer system to retrieve information associated with operations previously performed by the server and/or client. This retrieve by recovery purposes, para [0007], ln 4-9).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of Bramnick and Bhat because Bhat's provides a unique identifier associated with the data to store with the data in persistent storage would improve the teaching of Bramnick's system by providing quick and direct access to various positions in the log file.

Bramnick and Bhat do not teach identify a storage mechanism referenced by the request, a request to store state data of virtual machine, the request received from an application executed by the virtual machine, after a failure of the virtual machine, recovering the stored state data. However, Traversat teaches a request to store state data of virtual machine, the request received from an application executed by the virtual machine, after a failure of the virtual machine, recovering the stored state data (client 100 may include a computer platform with operating system such as a PC or laptop computer running Windows 9x/NT, or a virtual machine, for example a JVM or KVM, col 16, ln 46-50/ client system 100 may be used for running application ... one or more application may be executing on client system 100, col 16, ln 55-60/ the virtual persistent heap may enable the saving of the entire state of the virtual machine heap for possible future resumption of the computation at the point the save was performed ... the saved state of the virtual machine heap may also provide the ability to restart the virtual machine after a system crash or shutdown to a previously saved persistent state, col 5, ln 19-26/ a checkpoint for application 104 may be written to persistent store space 120. In this application, a checkpoint is a persistent store of the state of an application and its execution environment (such as the virtual machine state) at a point in time, col 10, and ln 22-27. a request by the application for an object not currently in the in-memory heap 108 may trigger a heap read operation to move the object from the virtual heap 110 to the in-memory heap 108, col 36, ln 5-11/ the store 120 may be segmented into two or more disjoint virtual heaps, each check pointed application such as application 104 has its own virtual heap space reserved in the store.... Paging provides a simple mode to move data from the persistent store 120 to the in-memory heap 108 in virtual machine 100, col 19, ln 15-25/ upon the request is received, logging service 141 through API

Art Unit: 2194

147, determines the appropriate log file where the new log record is to be located, para [0076], ln 1-7).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the teaching of Bramnick and Bhat to incorporate the features of a request to store state data of virtual machine, the request received from an application executed by the virtual machine, after a failure of the virtual machine, recovering the stored state data because this avoids the overhead of starting a new virtual machine for a new application.

As to claim 2, Bhatt teaches a plurality of parameters (error log records, para [0076], ln 1-10), providing a plurality of parameters to define the data storage mechanisms (para [0076], ln 1-10).

As to claim 16, it is an apparatus claim of claim 1; therefore, it is rejected for the same reason as claim 1 above.

3. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bramnick et al (US. Patent 5,903753) in view of Bhat (US 2003/0055809 A1) in view of Traversat et al (US 6,854115 B1), as applied to claim 1 above, and further in view of Xu (US. Patent 6,018743).

As to claim 6, Bramnick, Bhat and Traversat do not teach the data storage mechanisms include byte array read/write, file I/O, and JDBC. However, Xu teaches the data storage mechanisms include byte array read/write, file I/O, and JDBC (col 7, ln 18-24).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of Bramnick, Bhatt, Traversat to incorporate the feature of

Art Unit: 2194

formatting the data to be compatible with the one of the data storage mechanisms, and storing the formatted data because this allows an object can be easily to be retrieved from an storage through object-oriented programming techniques.

Allowable Subject Matter

4. Claims 11, 17 are allowed.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

Art Unit: 2194


Any inquiry concerning this communication or earlier communications from the examiner should be directed to LeChi Truong whose telephone number is (571) 272 3767. The examiner can normally be reached on 8 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomson, William can be reached on (571) 272 3718. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIP. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIP system, contact the Electronic Business Center (EBC) at 866-217-9197(toll-free).

LeChi Truong

July 17, 2007


WILLIAM THOMSON
SUPERVISOR, EBC
TECHNICAL CENTER TWO